

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 2000005580
PUBLICATION DATE : 11-01-00

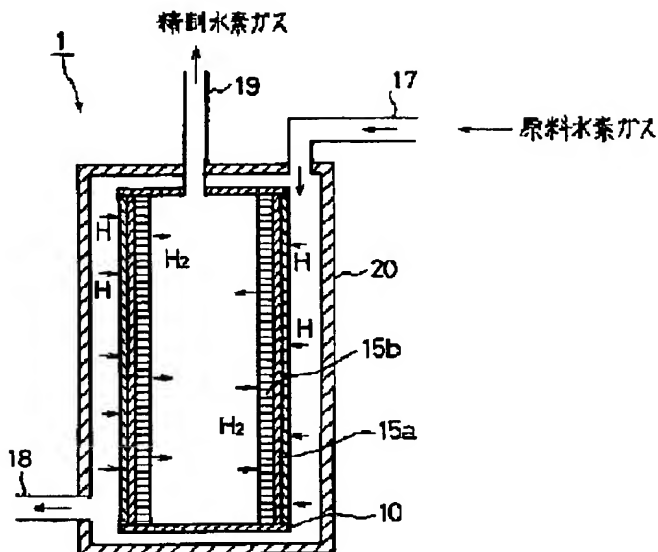
APPLICATION DATE : 19-06-98
APPLICATION NUMBER : 10173660

APPLICANT : ISHIKAWAJIMA HARIMA HEAVY IND
CO LTD;

INVENTOR : KOGA MINORU;

INT.CL. : B01D 71/02 B01D 69/12 C01B 3/56

TITLE : COMPOSITE HYDROGEN
PERMEATION MEMBRANE HAVING
PRESSURE RESISTANCE AND ITS
PRODUCTION AND REPAIRING
METHOD THEREOF



ABSTRACT : PROBLEM TO BE SOLVED: To keep high hydrogen permeability and to provide pressure resistance by constituting to joint membrane of palladium or a palladium alloy to a metal made porous plate.

SOLUTION: A cylindrical tube of a multiple hydrogen permeation membrane, which is formed from the thin membrane 10 of palladium or the palladium alloy, a small pore diameter porous layer 15a having a fine skeleton and small pore size and a large pore diameter porous layer 15b having a thick skeleton and large pore size and has a thin membrane 10 placed on the outer peripheral surface, is formed. Pressurized raw material gaseous hydrogen is supplied to the outside of the thin membrane 10 and heated to a fixed temp., hydrogen molecule is dissociated into atomic state on the surface of the thin membrane 10 to form a solid solution with palladium and to be incorporated in palladium and the incorporated atomic state hydrogen is turned to hydrogen molecule again on the inside surface of the thin membrane 10. The impurities in the gaseous starting material remains on the outside of the thin membrane 10, the raw material gaseous hydrogen is completely purified and purified gaseous hydrogen inside of the thin membrane 10 is recovered through a taken out pipe 19. As a result, the composite hydrogen permeation membrane stands the pressure difference between the gaseous mixture side and the purified hydrogen side while keeping high hydrogen permeation rate.

COPYRIGHT: (C)2000,JPO

BEST AVAILABLE COPY